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FUNCTIONAL BACKGROUND IDENTITY, DIVERSITY, AND INDIVIDUAL PERFORMANCE IN CROSS-FUNCTIONAL TEAMS

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This study's examination of demography, personal, and social identity related to functional background offers insights about individuals' performance in cross-functional teams. We considered both the interaction between identity and dissimilarity with other team members and the interaction between identity and membership in a team's minority or majority. In explaining the relationship between identity and an individual's performance as a cross-functional team member, minority/majority membership interacted significantly with identity, but actual degree of dissimilarity did not.

In order to enhance their competitive position and to benefit from different viewpoints, organizations today increasingly rely on cross-functional teams composed of members from different functional backgrounds. However, cross-functional teams often do not yield anticipated performance gains (Ancona & Caldwell, 1992). Williams and O'Reilly (1998) concluded from their literature review that one of the key reasons functionally diverse team outcomes have been disappointing is that individuals within these teams do not perform effectively or contribute their best efforts to their teams. Cross-functional teams in particular depend on the collaborative contribution of each team member so that multiple perspectives and knowledge bases can be applied to increase innovation and speed to market (Lovelace, Shapiro, & Weingart, 2001). Therefore, while team performance is important, an individual's collaborative performance as a team member also should be considered as a critical outcome for research. To date it has not received the attention as a specific outcome that Williams and O'Reilly (1998) suggested it deserves.

In this work, we examine the relationship between functional background identity, dissimilarity, and an individual's performance in a cross-functional team. We focused on functional background since it is a key criterion for team member selection and, as such, an accessible diversity characteristic for team members. Furthermore, unlike other demographic characteristics, it is job related and thus will directly impact performance (e.g., Williams & O'Reilly, 1998).

We drew upon the identity literature and considered how it might augment the traditional approach for considering functional diversity (relational demography, measured by demographic dissimilarity). Although identification is often *assumed* to accompany association with a demographic category, identification with a demographic category has rarely been examined empirically (Riordan, 2000). Further, when researchers have considered identity, they have typically examined it through a social identity theoretical framework that excludes other facets of identity, such as personal identity. In this study, we investigated two types of identity: social identity, which involves caring about the successes and failures of one's group or subgroup, and personal identity, which results from one's own past experiences and background. Our focus was on the extent to which functional background differences relative to others on a team affect the strength of the relationship between identity and individual performance.

It is important to note the nature of the relationship between identity and demographic characteristics. Social and personal identity types are constructed in reference to demographic characteristics. For example, a demographic characteristic such as functional background comprises the content of an individual's social and personal identities. While identities can be multidimensional in their content (for example, comprised of numerous demographic characteristics such as age, race, and gender) as well as in their type (social and personal), in this research we focused on the latter.

Our research offers several contributions to the-

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ory. First, we demonstrate *how* two types of identity relate to individual performance and *when* they operate differently, extending previous work (e.g., Brickson, 2000) that has focused on defining identity types. We further theory about identity processes by exploring the thesis that the strength of the relationship between identity and individual performance in a cross-functional team depends on functional background differences. By including both social and personal identity within the same study, we were able to empirically examine the theoretical assumption that these two identity types are different and extend their theoretical applicability to individual performance in cross-functional teams. We also examined whether consideration of these identities offers greater insights about individual performance in cross-functional teams than dissimilarity alone. Finally, we explored how individual performance within cross-functional teams is influenced by factors associated with team members as individuals (personal identity), team members as functional background subgroup members (social identity), and team member demographic differences related to functional background. This study holds important implications for managers regarding team composition and individual performance within cross-functional teams as well as for identity and demography researchers interested in understanding how combining their domains can provide additional explanatory power.

Below, we present theory regarding social and personal identity and how they contribute to our understanding of what shapes an individual's performance in a cross-functional team. We also discuss how we expect these identity types to relate to an individual's performance depending on the level of functional similarity with others in the team. By focusing on cross-functional teams, our framework is specific to these teams, which are usually implemented for interdependent tasks, and does not necessarily apply to teams engaged in less interdependent tasks.

CONCEPTUAL BACKGROUND AND HYPOTHESES

Identities are the psychological manifestations of categories, such as race and functional background (Sherif, 1982). One of the few empirical examinations of how identity relates to individual performance at work was conducted by Lobel and St. Clair (1992), who found that gender identity did not predict work effort or merit increase size, while the importance of career identity did. Lobel and St. Clair's work suggests that the relevance of an identity to an individual may provide further explanatory power regarding an individual's performance than that provided by demographic characteristics alone. In order to address that suggestion, we examined identity and its relationship to an individual's performance as a cross-functional team member. We did this by following Brickson's (2000) recommendation to consider identity as multifaceted—as both social and personal—and by examining identity in the context provided by dissimilarity and minority/majority membership.

An individual's demographic dissimilarity usually is examined through the lens of relational demography, which is concerned with similarity to or difference from others in a group on a specific demographic characteristic (Tsui, Egan, & O'Reilly, 1992). Researchers have considered the influence of functional background dissimilarity on outcomes, such as communication and accuracy of environmental perceptions (e.g., Williams & O'Reilly, 1998). Moreover, a positive relationship between functional dissimilarity and group-level performance has been established. Although the relationship between functional dissimilarity and individual performance has not been examined specifically, we expected that strong individual performance as a team member contributed to the positive group-level outcomes found in previous research.

Because relational demography research addressing functional background dissimilarity does not take into account two facets of identity, we posited that personal and social identity would explain more variance in an individual's performance as a team member than would functional background dissimilarity. Relational demography's focus has been on outcomes resulting from functional background demographic differences rather than on whether an individual actually identifies with his or her functional background—whether or not functional background matters to that individual (personal identity). For example, although an individual has a finance functional background, finance may not be very important to how he or she thinks of himself or herself and, subsequently, having a finance functional background may not impact his or her behavior or performance in a significant fashion. In addition, a relational demography lens does not reveal the extent to which an individual feels a sense of common identification with others from the same functional background on a team (social identity). Therefore,

Hypothesis 1. Personal and social identity pertaining to functional background explains variance in an individual's performance as a cross-functional team member above and be-

yond the variance functional background dissimilarity explains.

Social Identity

Functional social identity. In their explanation of social identity theory, Tajfel and Turner (1986) distinguished between social and personal identities. A strong social identity involves a collective, as opposed to a strictly individual, conceptualization of self. An individual derives self-esteem from socially identifying with groups, such as a particular functional background, and will be motivated to maximize this potential for self-esteem (Tajfel & Turner, 1986). Thus, if an individual strongly socially identifies with his or her functional background, he or she will engage in behaviors to enhance the attractiveness of that background and gain more self-esteem. We expected that, in a cross-functional team, individuals who socially identify with their functional backgrounds will perform in a cooperative fashion to distinguish their functional background from others and gain positive self-esteem as a result. This formulation suggests:

Hypothesis 2. Identification with others on a team from an individual's functional background (functional social identity) is positively related to the individual's performance as a cross-functional team member.

Social identity and dissimilarity. Scholars, such as Brewer (1991), have noted that the effect of identity on behavior is context-dependent. Functional background dissimilarity relative to other team members is one context in which the relationship between identity and individual performance can be examined. Considering the interaction between identity and dissimilarity raises questions, such as the following: Will an individual with a strong social identity perform at the same level regardless of how functionally similar he or she is to all the other members of a team? One way to address this question would be to investigate if functional similarity triggers or increases the strength of an identity, which in turn increases performance. Another potential focus of inquiry, which we adopted, is to examine functional similarity as a *moderator* of the relationship between identity and performance.

We expected the positive relationship between identification with others from an individual's functional background (social identity) and performance to be even stronger for an individual whose function is similar to those of others on a team. According to the "upper echelons" perspective, a different approach to solving problems characterizes each functional background represented on a team (Hambrick & Mason, 1984). As a result, the more functionally similar individuals there are on a team, the more team members there are with the same problem-solving approach. That same problem-solving approach will be reflected in the overall team approach (Wood, Lundgren, Ouellette, Busceme, & Blackstone, 1994). The group value model suggests that functionally similar team members gain status from having their perspective reflected in the approach adopted by the cross-functional team as a whole (Lind & Tyler, 1988). Because of this increased status, functionally similar individuals become highly committed to the cross-functional team and try to reinforce their commitment to it through high performance, which supports the team. Therefore,

Hypothesis 3. The positive relationship between an individual's functional social identity and performance as a member of a cross-functional team is stronger the more similar his or her functional background is to the functional backgrounds of others on the team.

Personal Identity

Functional personal identity. Brewer (1991) described a personal identity as one that an individual holds that is critical to his or her self-concept. It is one that is generated within the individual through consideration of her or his own unique background and experience and is not constructed relative to some other group. As a self-focused construct, personal identity reflects the level of importance placed on one's functional background. For example, a self-taught computer programmer considers his or her computer programming background to be very important on the basis of an interest in computers, but does not necessarily relate or identify with other computer programmers.

In contrast to the "other" focus of social identity, the "self" focus of personal identity suggests that personal identity and performance will be negatively related. Brickson (2000) proposed that a strong personal identity results in self-serving behavior. This self-serving behavior is detrimental to effective individual performance in a cross-functional team, as these types of teams typically are engaged in interdependent tasks that depend on team member cooperation. Because of this focus on outcomes that are instrumental to the self, a strong functional personal identity is likely to hinder behaviors that will contribute to the team or to strong individual performance as a team member. Therefore,

Hypothesis 4. The importance an individual places on functional background (functional personal identity) is negatively related to the individual's performance as a cross-functional team member.

Personal identity and dissimilarity. We expected the negative relationship between personal identity and individual performance within a team to be stronger for individuals whose functional background is highly dissimilar from the backgrounds of others on the team. Dissimilar individuals are especially prone to hold negative impressions of team members they differ from and to confirm negative stereotypes about these individuals (Flynn, Chatman, & Spataro, 2001). Negative impressions are reflected in the behaviors and attitudes dissimilar individuals exhibit, such as reluctance to interact with other members of a team who are different from themselves, and relatively low commitment to the team (Riordan & Shore, 1997). This infrequent interaction and lower commitment to the team will further intensify the negative relationship between a strong functional personal identity and performance as a team member. Functional background dissimilarity does not increase the strength of one's personal identity, but rather, it serves as a context that amplifies the negative relationship between personal identity and individual performance as a team member.

Hypothesis 5. The negative relationship between an individual's functional personal identity and performance as a member of a cross-functional team is stronger the more dissimilar his or her functional background is to the functional backgrounds of others on the team.

Dissimilarity, Identity, and Minority/Majority Membership

The empirical findings of Harstone and Augoustinos (1995) suggest that identification processes, such as biases that favor "us" over "them," are elicited more strongly by dichotomous categories (such as minority versus majority) than by more dispersed variables. Harstone and Augoustinos's study suggests that it is important to consider whether an individual's functional background is in the minority or majority within a team, since dissimilarity may capture functional background differences in a manner that is too specific. While cross-functional team members no doubt recognize that numerous functional backgrounds are represented in the team, they may cognitively simplify their perceptions into the more comprehensible differentiation between minority and majority functional backgrounds.

Therefore, in our efforts to understand the interaction between identity and the context provided by the functional background differences of team members, we also examined the interaction between minority/majority membership and identity. Following Westphal and Milton (2000), we defined minority membership as having a functional background held by less than 50 percent of one's team. Since dissimilarity and minority/majority membership should be highly correlated (if one is highly dissimilar, then by definition there are not a lot of others like you, and you are in the minority), the theoretical mechanisms that support the dissimilarity interaction hypotheses are also relevant to the minority/majority membership interactions. In addition, we drew upon literature that related more specifically to minority/majority membership. Below, we briefly discuss the additional theory from that literature.

Social identity and majority team members. We expected the positive relationship between identification with others from an individual's functional background (social identity) and performance to be stronger for an individual whose function is in the majority on a team. Individuals with strong social identities who are in the functional majority will be good performers on the team because their team commitment has been enhanced by the status gained from having their functional background's perspective reflected in the approach the team adopts. In addition, majority members have the advantage of being viewed as more attractive and prestigious than minority members (Kelman, 1958). Majority members are motivated to increase the attractiveness of their functional background by performing well, since they then will gain higher self-esteem (Tajfel & Turner, 1986). The prestige of being a majority member enhances an individual's motivation to gain self-esteem by performing at a high level. Therefore,

Hypothesis 6. The positive relationship between an individual's functional social identity and performance as a member of a cross-functional team is stronger when his or her functional background is the majority background on the team.

Personal identity and minority team members. Evidence suggests that minority members are perceived to be weak performers within a team, whether or not they conform with majority members (Festinger, 1954; Levine, 1989). If a minority member does not conform with the majority, he or she could be viewed as not being a team player and

as blocking consensus. On the other hand, if a minority member conforms with the majority, then his or her expertise has not been aired within the group, and he or she could be perceived as not adding value to the group (Asch, 1955). Mass and Clark (1984) suggested that minority members often conform since they tend not to have influence on their teams and, consequently, lack the motivation to exert effort toward team goals. Either of these scenarios, combined with the already self-serving focus of a strong personal identity, is expected to strengthen the negative relationship between personal identity and performance for minority members. Being perceived as a weak performer regardless of the course of action taken will discourage a minority member from engaging in behaviors that will benefit a team.

Hypothesis 7. The negative relationship between an individual's functional personal identity and performance as a member of a cross-functional team is stronger when his or her functional background is the minority background on the team.

METHODS

Sample and Procedures

A survey instrument was administered in seven organizations to 262 professionals in 37 cross-functional teams. A total of 191 surveys were returned, for a response rate of 73 percent. The data set consisted of 145 responses, since cases were only included if they had supervisor ratings of individual performance. Industries represented were telecommunications (8.7% of the sample), computer manufacturing (21.9%), engineering services (36.5%), aerospace (10.4%), and consulting (22.5%). Nine functional backgrounds were included in the sample: accounting/finance (20.8%), information systems (14.8%), customer service (4.4%), human resources (15.8%), sales/marketing (5%), engineering (27.3%), purchasing (2.7%), operations (4.9%), and management (4.4%).

Measures

Functional background dissimilarity. We calculated the functional background dissimilarity of an individual by applying the Euclidean distance formula used by Tsui et al. (1992) to the functional background reported by each team member. The formula, which is shown below, is the square root of the summed squared differences between an individual's functional background (S_i) and the functional background of every other team member (S_j) divided by the total number of team respondents:

$$[(1/n)\sum_{i=1}^{n}(S_i - S_j)^2]^{1/2}.$$

Since functional background is a categorical variable, the difference between two individuals from different functions $(S_i - S_j)$ was assigned a value of one, consistent with Tsui et al.'s (1992) practice.

Functional social identity. We developed a three-item measure for this study to capture the social identity theory principle that "social identification is seen as personally experiencing the successes and failures of [a particular group or subgroup]" (Ashforth & Mael, 1989: 21). The following items were used to measure a respondent's social identification with others on her or his team with the same functional background. We asked team members to respond with their cross-functional team in mind. The items were (1) "When others with my functional background are successful, I feel that all of us with the same functional background have been successful," (2) "I share in the successes of others with my functional background," and (3) "When others with my functional background are recognized for their accomplishments, I feel like I have accomplished something too." (1 = "strongly disagree," 5 = "strongly agree"; $\alpha = .79$).

Functional personal identity. Luhtanen and Crocker's (1992) four-item identity scale was modified to reflect the importance of an individual's functional background identity. The four items are (1) "In general, my functional background is an important part of my self-image," (2) "My functional background is unimportant to my sense of what kind of a person I am," (3) "Overall, my functional background has little to do with how I feel about myself," and (4) "My functional background is an important reflection of who I am." (1 = "strongly disagree," 5 = "strongly agree"; $\alpha = .83$).

To ensure that our social and personal identity items were distinct, we included items from both scales in a principal components analysis with "varimax" rotation. The factor analysis demonstrated that the social identity and personal identity scales were independent of one another (two eigenvalues greater than one accounted for 67 percent of the variance, and on-factor "loadings" ranged from .70 to .86, while off-factor loadings were less than .22).

Minority/majority membership. Minority/majority membership was assessed with a measure used by Westphal and Milton (2000) in which a dichotomous variable indicates whether or not a

focal individual's functional background is in the minority (shared by fewer than 50 percent of a team's members) on a team (0 = "majority," 1 = "minority").

Individual performance. Individual performance was measured as performance as a team member via a three-item scale completed by supervisors. Items included "how cooperative they typically are with other team members," "the quality of their citizenship" (defined as doing extra tasks to support a team that are not formally a part of the job description), and "overall job performance within the team." (1 = "low" to 5 = high; $\alpha = .70$). Since this measure includes both inrole (collaborative task behaviors) and extrarole (citizenship) performance, it represents a comprehensive measure of individual performance as a cross-functional team member (Borman & Motowidlo, 1997). By requesting this information from supervisors, we sought to avoid confounding our hypotheses by common source bias.

Demography controls. Nine dummy control variables representing functional background and four additional demographic controls (gender, age, race, and tenure) were included in the regression analyses. Respondents provided information regarding these variables at the end of the survey. Tenure and age were indicated in years, and gender and race were coded dichotomously ("male" = 0, "female" = 1; "white" = 0, "nonwhite" = 1).

Team size. Team size was included as a control variable since individuals have a greater tendency to engage in social loafing and thus to perform at a lower level in larger teams (Latane, Williams, & Harkins, 1979).

Team heterogeneity index. To control for possible team effects and any violation of independence effects that might result from individuals being parts of a team, we created an index to reflect a team's overall composition and serve as an indicator of team membership. Following Chatman and Flynn (2001), we created this team index by computing an overall coefficient of variation (a measure of dispersion that is not scale-dependent) that encompasses gender, age, race, and tenure. Thus, this group-level measure was calculated as the standard deviation of the demographic differences between team members (the sum of the Euclidean distances from other team members on gender, age, race, and tenure) divided by the mean of the total demographic difference between team members. Each individual was assigned an index number unique to his or her team. This method allowed us to control for team membership without removing excessive degrees of freedom from our analyses.

Type of organization. A dichotomous control variable was created to account for firm type (0 = "consulting firm," 1 = "high-technology firm"). We wanted to control for any differences in organizational culture and expectations regarding performance as a team member in consulting firms and in high-tech companies dominated by engineers and computer scientists.

RESULTS

Table 1 provides descriptive statistics and correlations for all of the measures. Because of the multicollinearity between dissimilarity and minority/majority membership ($r = .75$), we conducted two separate hierarchical regression analyses. In Table 2, which presents these results, models 1–3 involve dissimilarity, and models 4–6 involve minority membership. We used hierarchical regression analyses to examine the variance explained by dissimilarity or minority/majority membership (models 1 and 4) relative to the variance explained by social and personal identity (models 2 and 5). Interaction effects were included in the third step of the hierarchical regression analyses (models 3 and 6). We centered the data in order to minimize the possibility of multicollinearity, which can occur when multiple interaction terms are included simultaneously in the same equation (Cohen & Cohen, 1983). Because we hypothesized directionality, we report results for Hypotheses 2 through 7 using one-tailed significance tests. Also, we report significance at both the .10 and the .05 levels since a power analysis indicated a power level of .70. (Cohen [1988] recommended a power level of at least .80.)

As shown in Table 2, the significant change in the squared multiple correlation coefficient (ΔR^2) of .04 in model 2 indicates support for Hypothesis 1, which posits that considering both functional personal and social identities explains variance in an individual's performance as a cross-functional team member above and beyond the variance explained by dissimilarity. An additional 4 percent of the variance in an individual's performance as a cross-functional team member is explained by considering social and personal identity in addition to dissimilarity.

Results for our test of Hypothesis 2 also appear under model 2. Hypothesis 2, which states that an individual's social identity is positively related to an individual's performance in a cross-functional team, is supported. Model 3 presents the results for Hypothesis 3, which asserts that one's social identification with others from the same functional background is more strongly related to one's per-

TABLE 1
Descriptive Statistics, Correlations, and Reliabilities[a]

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Gender[b]																						
Men	54.6%																					
Women	45.4%																					
2. Age	37.92	10.25	−.24**																			
3. Race[c]																						
White	62%		−.14	.05																		
Nonwhite	38%																					
4. Tenure	8.15	8.27	−.18*	.65**	.02																	
5. Team size	6.10	2.45	.21**	.21**	.09	.05																
6. Team heterogeneity index	−2.73	20.49	−.03	.11	.06	−.03	.08															
7. Type of organization[d]	0.78	0.42	.12	.30**	.26**	.21**	.53**	.18*														
8. Accounting/finance	20.7%		−.12	−.24**	−.21**	−.11	−.42**	−.21**	−.76**													
9. Information systems	14.7%		−.01	−.06	−.04	−.18*	.34**	.01	.04	−.21**												
10. Customer service	4.3%		.18*	−.10	.02	−.07	.17*	−.05	.12	−.11	−.09											
11. Human resources	15.8%		.24**	−.06	−.06	−.17*	.03	.15*	.23**	−.22**	−.18*	−.09										
12. Sales and marketing	4.9%		.05	−.05	.03	−.07	−.18*	.08	.00	−.12	−.10	−.05	−.10									
13. Engineering	27.2%		−.26**	.36**	.23**	.33**	.09	.06	.30**	−.31**	−.26**	−.13	−.27**	−.14								
14. Purchasing/procurement	2.7%		.12	−.01	.08	.08	.02	.01	.09	−.09	−.07	−.04	−.07	−.04	−.10							
15. Operations	4.9%		−.11	.09	.03	.18*	−.02	−.02	.12	−.12	−.10	−.05	−.10	−.05	−.14	−.04						
16. Management	4.3%		.18*	−.03	−.06	−.02	.01	−.02	.05	−.11	−.09	−.05	−.09	−.05	−.13	−.04	−.05					
17. Functional background dissimilarity	0.49	0.34	.17*	.04	−.04	.01	.27**	.10	.41**	−.44**	.18*	.22**	−.04	.16*	−.21**	.19**	.28**	.25**				
18. Functional social identity	3.48	0.79	−.03	.14	.20**	.04	.22**	.05	.20**	−.17*	−.01	−.03	.03	.05	.20**	−.05	−.13	.02	.00	(.79)		
19. Functional personal identity	3.36	0.75	.20**	.01	−.15*	−.04	.09	−.01	.10	−.06	−.01	−.16*	.07	−.03	.04	.04	.03	.06	.09	.00	(.83)	
20. Minority/majority membership[e]	0.32	0.47	.15*	−.07	−.03	−.11	.09	−.02	.15	−.21**	.05	.31**	−.16*	.06	−.29**	.25**	.33**	.31**	.75**	−.04	−.01	
21. Individual performance	4.12	0.75	.01	.06	.11	.00	.08	−.02	.23**	−.10	−.13	.00	.09	−.14	.22**	−.13	−.07	.07	−.11	.22**	−.08	−.18* (.70)

[a] $n = 145$. Reliabilities (α's) are in parentheses.
[b] 0 = "men," 1 = "women."
[c] 0 = "white," 1 = "nonwhite."
[d] 0 = "consulting," 1 = "high-technology."
[e] 0 = "majority," 1 = "minority."
* $p < .05$
** $p < .01$

TABLE 2
Results of Hierarchical Regression Analyses Predicting an Individual's Performance as a Cross-Functional Team Member[a]

	Dissimilarity and Identity Predicting Performance			Minority Membership and Identity Predicting Performance		
Variable	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Gender	.03			.01		
Age	.07			.08		
Race	.02			.02		
Tenure	−.16†			−.21*		
Information systems	−.11			−.14		
Customer service	−.02			.01		
Human resources	−.05			−.09		
Sales and marketing	−.14†			−.16†		
Engineering	.05			.03		
Purchasing/procurement	−.14†			−.12		
Operations	−.07			−.03		
Management	.05			.08		
Team size	−.09			−.07		
Team heterogeneity index	−.06			−.07		
Type of organization	.38**			.35**		
Functional background dissimilarity	−.16†					
Minority/majority membership				−.23*		
Functional social identity		.17*			.17*	
Functional personal identity		−.15*			−.16*	
Functional social identity × functional background dissimilarity			.01			
Functional personal identity × functional background dissimilarity			−.04			
Functional social identity × minority/majority membership						.12
Functional personal identity × minority/majority membership						−.21*
df	16, 124	18, 122	20, 120	16, 124	18, 122	20, 120
R^2	.16	.20	.21	.18	.22	.25
ΔR^2		.04*	.01		.05*	.03†
F	1.50	1.72*	1.54†	1.65†	1.92*	2.02**

[a] $n = 145$; entries represent standardized regression weights. Variables have been centered.
† $p < .10$
* $p < .05$
** $p < .01$

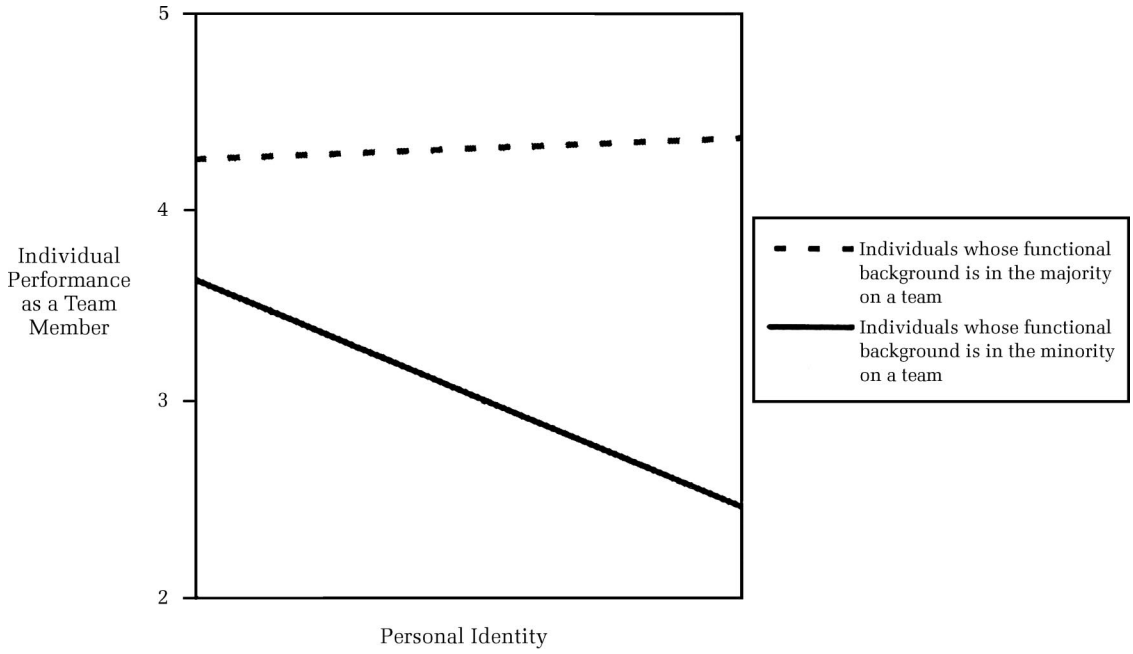
formance as a team member when one is more similar to other team members in functional background. Hypothesis 3 is not supported.

Hypothesis 4 states a negative relationship between personal identity and an individual's performance as a cross-functional team member and, as indicated by model 2, is supported. Model 3 presents the results for Hypothesis 5, which is not supported. The interaction between dissimilarity and personal identity is not significantly related to individual performance.

According to the results displayed in model 6, Hypothesis 6 is not supported, since the interaction between social identity and minority/majority membership is not significant. However, model 6 provides support for Hypothesis 7, which posits that the negative relationship between functional personal identity and performance is stronger when an individual's functional background is in the minority.

To better understand this significant interaction, we conducted further analyses, following Aiken and West (1991). As shown in Figure 1, for those in minority functional backgrounds (the solid line), the relationship between personal identity and performance is strong and negative. In contrast, the

FIGURE 1
Effects of the Interaction of Personal Identity and Minority/Majority Membership on Performance as a Team Member



line representing individuals with majority functional backgrounds (the dotted line in Figure 1) is practically flat, indicating a weak relationship between personal identity and performance.

We also examined the role of identity as a mediator of the relationship between dissimilarity and performance, a role implied in the demography literature. Following Baron and Kenny (1986), we did not find any support for the view that either personal or social identity operates as a mediator between dissimilarity and individual performance.

DISCUSSION AND CONCLUSIONS

Theoretical Implications

Our study extends theory about identity processes by showing *when* the negative effects of personal identity on performance as a team member become stronger: it is when a team member with a strong personal identity is in a team's functional minority. One explanation for this finding is that members of a functional background minority feel discouraged from engaging in behaviors that will benefit their team because they are perceived as weak performers regardless of their course of action. Alternatively, the self-serving behaviors of a strong personal identity may be exacerbated for functional background minority members who may withhold cooperative behavior to serve self-interest.

We also provided empirical support for the theoretical assumption that social and personal identities do not operate similarly because of differences between a collective focus and a self-focus. In doing so, this study has extended theory about these two facets of identity to the domain of individual performance within a cross-functional team by showing that social identity was positively related to performance while personal identity and performance were negatively related. The positive relationship between social identity and performance suggests that the theoretical focus of some scholars (e.g., Brewer, 1991) on determining how to reduce the in-group favoritism that accompanies social identification may be incomplete, since our results suggest social identification is *beneficial* to individual performance within a cross-functional team.

Our study contributes to both the demography and identity literatures by showing that incremental variance was explained by augmenting dissimilarity with identity. Although studying demography addresses context, studying identity goes further to address whether a demographic category (such as functional background) is important to an individual or involves a sense of common identification with others. Our results suggest that scholars and managers who are considering either a demography or an identity approach ought to consider both. Such a dual approach would be in keeping

with Riordan's admonition: "Research has not tested the extent to which individuals actually use various demographic characteristics . . . to define their social identities" (2000: 160).

We also offer a theoretical contribution regarding cross-functional teams, demonstrating how individual performance as a team member is affected by factors associated with team members as individuals (personal identity), factors associated with team members as functional background subgroup members (social identity), and factors associated with team member demographic differences (functional background dissimilarity and majority/minority membership). By considering characteristics that are related to an individual's identity as well as to functional background differences—dissimilarity or minority membership—it is possible to develop a more thorough understanding of factors that influence effective individual performance within a cross-functional team.

Practical Implications

Our social identity findings imply that promoting functional background social identification in a cross-functional team can be beneficial for encouraging individuals, regardless of their level of functional similarity to others on the team, to perform more effectively as team members. Specifically, managers should openly reward and be sure to recognize the functional backgrounds of outstanding team members, since our results suggest that individual-level performance gains are achieved when social identification (as measured here as feeling successful when functionally similar others attain goals) is strong.

Furthermore, our research suggests that instead of calculating a complicated dissimilarity score, managers who seek to avoid the negative performance implications of a team member's strong personal identity need only consider whether the focal individual is in the functional background minority. Determining minority membership is much easier than calculating dissimilarity and thus, managers are more likely to consider the former.

Our results suggest that, in order to avoid the low performance outcomes associated with strong personal identity, managers should not only consider potential cross-functional team members' minority membership but also make efforts to assess their functional personal identities prior to placing them on a team. If faced with an individual with a strong functional personal identity who will be in the minority, managers should consider adding members to the team from similar functions so that the focal individual will no longer be in the functional minority. Alternatively, managers could consider not assigning individuals with strong functional personal identities to teams in which their functional background would be in the minority.

Limitations

We must take caution in interpreting our results. Because the data are cross-sectional, we cannot be certain that identification processes affect an individual's performance. It may be that an individual's performance within a team (or within his or her functional unit more generally) alters the extent of identification with functional background and the importance placed on function. The high correlation between dissimilarity and minority/majority membership renders it unclear whether separate phenomena underlie these constructs. Although we expected these constructs to be highly correlated, future research is needed to confirm whether in fact team members perceive dissimilarity and minority/majority membership to be more distinct than the correlation between them suggests. Although our relaxed significance levels for directional hypotheses are in accordance with accepted statistical practice, we note that our effect sizes were small in some instances, and we feel strongly that replication of this study is warranted. Since our performance measure emphasized cooperation, in view of the extent to which cooperation is a prerequisite for cross-functional team success (Lovelace et al., 2001), future researchers should be sure to consider whether our findings (in particular those pertaining to social identity) apply when performance is defined strictly as task execution. Such research should consider cooperation as a mediator, however, since this and other studies have found it to be vitally important to cross-functional teams. Although focusing on a cooperative measure of performance may be seen as a boundary condition of our findings, it is also a strength, since an individual's collaborative performance within a cross-functional team has not received the research attention that Williams and O'Reilly (1998) suggested it deserves.

Future Research

Although social identity research has proposed decreasing identification with a particular social group as a way to reduce the negative consequences of in-group favoritism that can accompany such identification (e.g., Brewer, 1991), our findings suggest that managers should highlight rather than weaken social identification with a particular functional background to enhance individual perfor-

mance in a cross-functional team. Future research should consider how managers of cross-functional teams can reap the benefits of individual performance associated with social identification without eliciting its negative side effects. Researchers will have to help managers determine whether factors, such as the degree of task completion or the stage of team development, influence when it is optimal to emphasize or deemphasize social identification. In addition, future research is needed to understand whether strong social identifiers direct their cooperative behaviors primarily to other ingroup members or more diffusely.

The large regression coefficients we observed for our variable for type of organization indicate that incorporating this variable as a control was warranted. Further, these large values also suggest that there may have been differences between the high-technology and consulting companies with respect to norms for the performance expected from a cross-functional team member. Future research with large samples should likely include type of organization as a moderator.

Researchers conducting future studies may want to consider if an interaction occurs between functional identity and other identities (such as race and gender) and whether the importance ranking of those identities holds implications for individual performance. Also, future research can promote further understanding of our current findings by addressing multilevel influences on personal and social identities. For example, Stasser and Titus (1985) proposed that prediscussion team-level consensus affects an individual's efforts within a team. Such multilevel theorizing offers a potentially rich understanding of the conditions under which the identity processes discussed herein will operate.

Research is also needed to examine further whether personal and social identities are as independent as our study suggests. While it seems possible to have both a strong social and a strong personal identity (since one conceivably could share in functionally similar others' successes while placing personal stress on one's functional background), the implications of emphasizing both the collective and the self raise numerous questions for future research. For example, would a neutralizing effect occur as a result of an emphasis on both the collective and the self, or would this dual focus result in emphasizing the collective and the self in different situations? Exploring the interaction between personal and social identities is yet another avenue for increasing knowledge about the multifaceted nature of identity.

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